

# Executive Summary

## *Introduction*

*Adolescent Births: A Statistical Profile, Massachusetts, 1997* is a supplement to the publication *Advance Data BIRTHS 1997*, and presents selected annual statistics and trend data on births among adolescent women in Massachusetts, as well as comparisons with national data. The four sections cover: demographic and birth characteristics and teen birth trends for the state as a whole; birthweight, gestational age, adequacy of prenatal care, infant mortality, smoking during pregnancy and mother's educational attainment; teen birth rates and birth characteristics for each of the 27 communities with the highest number of teen births in 1997; and teen birth characteristics for each of the 351 Massachusetts communities and for each of the 27 Community Health Network Areas (CHNAs). Teen births refer to births to resident Massachusetts women under 20 years old, unless specified otherwise. Massachusetts data are from the Registry of Vital Records and Statistics, Massachusetts Department of Public Health (MDPH). United States data are from the Centers for Disease Control and Prevention, National Center for Health Statistics (NCHS).

Overall, Massachusetts continues to have a low birth rate among women ages 15-19 years relative to most other states and the nation as a whole.<sup>1</sup> However, some Massachusetts communities have teen birth rates that are higher than the national rate. Moreover, there are still disparities across race/Hispanic ethnicity subgroups in relation to low birthweight prevalence, adequacy of prenatal care and infant mortality. The data presented in this profile are intended to present information that will assist those planning programs, provide evaluators and researchers with reference measures, and assist policy makers in their efforts to address adolescent health issues.

## *Summary*

### *I. Statewide Demographic and Birth Characteristics*

#### **Number and Percentage of Births to Women under Age 20**

- ✓ In 1997, 5,904 infants were born to women under age 20, 55 more births than the previous year. This was the first increase in eight years. Overall, since its peak in 1989, the number of births to teens has declined by 23.7%, whereas the number of births to all women in Massachusetts declined by 12.0%.
- ✓ The 1997 percentage of all Massachusetts births that were to women under age 20 was 7.4%. Massachusetts continued to have one of the lowest percentages in the nation and is well below the national 1997 percentage of 12.8%.<sup>1</sup>

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<sup>1</sup> National Center for Health Statistics, U.S. Department of Health and Human Services.

## **Birth Rates among Women Ages 15-19<sup>2</sup>**

- ✓ The 1997 Massachusetts teen birth rate was 33.8 births per 1,000 women ages 15-19. The teen birth rate changed little from the previous year, increasing slightly from 32.6 births per 1,000 15-19-year-old women. The 1997 teen birth rate has declined 5.8% since 1989, when it was at its highest point (35.9 per 1,000). The Massachusetts teen birth rate continued to be considerably lower than the national teen birth rate. The 1997 Massachusetts rate was 36.1% lower than the 1997 national rate of 52.9 per 1,000.

### **Age Distribution of Teen Mothers**

- ✓ The overall distribution of teen births (births to women under age 20) by mother's age has varied little in the past several years, with 18 to 19 year old women accounting for just over 60% of all teen births. In 1997, over one-third (35.7%) of all teen births were among 15-17-year olds, and 1.7% were among teens under age 15.

### **Race/Hispanic Ethnicity Distribution of Teen Births**

- ✓ In 1997, 2,865 (48.5%) of all teen births were to white non-Hispanic mothers; 1,807 (30.6%) were to Hispanic mothers; 794 (13.4%) were to black non-Hispanic mothers; 214 (3.6%) were to Asian mothers; and 205 (3.5%) were to mothers of Other race/ethnic groups.
- ✓ Between 1992 and 1997, the proportion of teen births that were to white non-Hispanic women decreased overall from 53.1% to 48.5%. The proportion of births that were to black non-Hispanic teens also showed a steady decline, from 15.8% to 13.4%. The proportions that were to Hispanic and Asian teen women increased during the same period, from 26.0% to 30.6% for Hispanics and from 2.7% to 3.6% for Asians. The proportion of births to Hispanic and Asian women of all ages also increased during this period.

### **Mother's Place of Birth**

- ✓ More than one out of every five (22.5%) teen mothers in 1997 was born outside the fifty United States and D.C.; among older mothers (20 years and older), there was a slightly lower percentage (19.7%). These percentages differed more markedly within specific race/Hispanic ethnicity groups. Among Hispanic teen mothers, about half were born outside the U.S. (50.5%), compared to 70.4% of older Hispanic mothers.
- ✓ The percentage of mothers born outside the U.S. varied by race/Hispanic ethnicity within each maternal age group. Among teen births, the majority of black non-Hispanic mothers were born in the U.S. (86.9%) in contrast to Asian mothers, the majority of whom were born outside the U.S (79.0%). A similar pattern was seen among older mothers.

### **Previous Live Births**

- ✓ In 1997, 18.0% of births to teens were to mothers with at least one prior live birth; 2.6% of teen births were to mothers with two or more prior live births. These percentages showed little change from 1996 (17.9% and 3.0%, respectively).
- ✓ The percentage of older teen mothers (18-19 years) who were multiparous (had at least one prior live birth) continued to decline slightly, from 22.7% in 1996 to 22.3% in 1997. There was a small increase in the percent of multiparous mothers among very young teens (12-17 years) (10.3% in 1996 to 10.8% in 1997).

### **Prenatal Care Payment Source**

- ✓ The percentage of teen mothers whose prenatal care was supported through public funds was 68.8%, virtually unchanged from 1996 (68.7%). In contrast, only 20.9% of women 20 and older had their prenatal care supported through public funds in 1997 (similar to the 1996 figure, 20.4%).

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<sup>2</sup> Due to a revised estimation of the population count for 1991-1995, the teen birth rates for these years have been recalculated. Therefore, the 1991-1995 teen birth rates published in the 1996 and 1997 reports should not be compared to those found in previous reports.

## **Marital Status**

- ✓ Of all teen women giving birth in 1997, 90.4% were unmarried. The percentage of births to unmarried teens has been growing steadily since 1980 when it was 56.9%. This trend is reflected among births to women age 20 and older as well; the percentage of births to unmarried, non-teen women doubled from 10.7% in 1980 to 20.6% in 1997.

## **In-Hospital Paternity Acknowledgment**

- ✓ In-hospital paternity acknowledgment among teens increased from 62.8% in 1996 to 66.0% in 1997, and from 67.1% to 71.3% among births to adult women. Since 1992, there has been a 44.7% increase in paternity acknowledgment among teen births.
- ✓ The percentage of paternity acknowledgment for births to older unmarried teens (ages 18-19) increased from 65.0% in 1996 to 68.4% in 1997, while the corresponding percentage among younger unmarried teen women (ages 12-17) increased from 59.7% in 1996 to 62.5% in 1997.
- ✓ Paternity acknowledgment varied widely by race/Hispanic ethnicity, ranging from a high of 76.5% among white, non-Hispanic unmarried mothers of all ages to a low of 53.8% among black non-Hispanic unmarried mothers. However, paternity acknowledgment increased from 1996 among all race/Hispanic ethnic groups.

## **In-Hospital Paternity Acknowledgment and Father's Age**

- ✓ Among all unmarried teen births with acknowledged paternity, 56.8% of the fathers were age 20 and older, 42.1% were between ages 20 and 24, and 12.7% were over age 25.
- ✓ Among unmarried teen mothers ages 16-17, the percentage of named fathers who were 20 and older increased from 41.8% in 1996 to 43.4% in 1997. Among 12-15 year old unmarried mothers, 25.7% of named fathers were 20 and older, a 9.8% increase from the 1996 percentage, 23.4% (1996 data not shown).

## ***II. Birth Outcomes and Prenatal Care***

### **Low Birthweight and Gestational Age**

- ✓ The overall percentage of low birthweight (LBW) births to teen mothers changed little from 1996 to 1997 (9.4% to 9.5%). In 1997, the occurrence of low birthweight (LBW) among births to teens (ages 12-19) continued to differ across race/Hispanic ethnicity groups, with white non-Hispanic teens having the lowest percentages of LBW (7.8%). The 1997 LBW percentage among births to black non-Hispanic teens was 12.6%, and 9.9% among births to Hispanics.
- ✓ Overall, the proportion of low birthweight births among teen births was 39.7% higher than it was for births to adult women (9.5% vs. 6.8%). This ratio varied by race/Hispanic ethnicity. Low birthweight among births to black non-Hispanic teens in 1997 was only 13.5% higher than among births to black non-Hispanic adults (12.6% vs. 11.1%). Low birthweight among white non-Hispanic teens was 23.8% higher than among white non-Hispanic adult women (7.8% vs. 6.3%), while Asian teens had more than twice as high a percentage of low birthweight compared with adult Asian women (14.0% vs. 6.4%).
- ✓ The incidence of preterm birth (<37 weeks gestation) continued to be higher among teen births than among births to older women (8.7% vs. 7.1%), although the difference between teens and non-teens narrowed compared to 1996. This smaller gap is largely attributable to a decline in the percentage of preterm births among teen mothers (9.6% to 8.7%). Preterm birth among teen births was more common among infants of black non-Hispanic and Hispanic teens (11.3% and 10.2%, respectively) than among infants of white non-Hispanic teens (7.0%).

## Prenatal Care

- ✓ In 1997, the overall percentage of teen mothers who received adequate prenatal care (first trimester registration and at least nine prenatal visits) was 59.2%, a slight decline from the previous year. Asian teens continued to have the lowest percentage of adequate prenatal care (41.0%) and white non-Hispanic teens the highest (63.8%).
- ✓ As in previous years, teen mothers were less likely than non-teen mothers to have received adequate prenatal care (59.2% vs. 81.8%) or prenatal care starting in the first trimester (64.6% vs. 86.0%).

## Cesarean Sections

- ✓ In 1997, cesarean sections occurred less frequently among teen births (11.6%) than among births to women age 20 and older (20.4%).

## Breastfeeding

- ✓ The percentage of teen mothers indicating either that they were breastfeeding their infant during their hospital stay or that they intended to breastfeed increased from 31.9% in 1990 to 51.4% in 1997. Over two-thirds (69.2%) of older mothers reported breastfeeding or intention to breastfeed in 1997.

## Infant Mortality<sup>3</sup>

- ✓ Infant mortality rates (the number of infant deaths per 1,000 births) overall have declined since 1991 for both teen births and births to older women. The decline from 1991-1996 in the infant mortality rate (IMR) among births to teens was slightly higher than the decline among births to older women (25.2% vs. 23.0% decline, respectively). This trend was consistent across each race/Hispanic ethnicity group except Asians, for whom the numbers of deaths were too small to make a meaningful comparison
- ✓ The IMR among infants born to teens decreased from 1995 to 1996 among white non-Hispanics (from 7.8 to 7.1) and Hispanics (from 8.7 to 7.5). The IMR increased among births to black non-Hispanic teens (from 8.1 to 12.3); the 1996 rate exceeds the IMR among older black non-Hispanic women for the first time in 3 years.
- ✓ The infant mortality rate (IMR) in Massachusetts has been consistently lower than the national IMR for both teen births and births to older women. The IMR among Massachusetts teen births in 1996 was 23.8% lower than the IMR among U.S. teen births (8.0 vs. 10.5 deaths per 1,000 live births). Similarly, the IMR among 1996 births to older women in Massachusetts was 30.9% lower than for the nation (4.7 vs. 6.8 per 1,000 live births).
- ✓ The infant mortality rate (IMR) among normal birthweight infants (2,500 grams or more) was nearly twice as high for births to teen mothers as for births to adult mothers (3.1 vs. 1.6). The risk of infant mortality increases as birthweight declines, both among births to teens and non-teen mothers.

## Smoking during Pregnancy

- ✓ As in 1996, more teen than adult mothers reported smoking during pregnancy in 1997 (21.4% vs. 11.6%). Between 1996 and 1997, the percentage of teen mothers who smoked during pregnancy decreased from 23.1% to 21.4%. The percentage of adult women who smoked also decreased slightly from 12.4% to 11.6%.
- ✓ Among teen mothers, white non-Hispanics had the highest prevalence of smoking (32.2%), almost three times that of the next highest race/ethnicity group, Asian, at 11.2%.
- ✓ Overall, the fewer cigarettes mothers smoked *prior* to pregnancy, the more likely they were to quit or reduce their level of smoking *during* pregnancy. This pattern was found among both teen and non-teen age groups.

## Expected Educational Attainment

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<sup>3</sup> 1996 is the latest year that infant mortality data by mother's age were available. Infant mortality data that is not age-specific (i.e. infant mortality among births to mothers of *all* ages) is available for 1997. See Technical Notes for further explanation.

- ✓ In 1997, 29.7% of births to teens (< 20 years of age) were to women who were behind their expected grade level at school. The proportions of teens who were behind their expected grade level at school varied by race/Hispanic ethnicity. A greater proportion of Hispanic teen mothers were behind their expected grade level (40.0%) compared to Asians (29.4%), white non-Hispanics (26.6%), and black non-Hispanics (17.8%).

### ***III. Birth Characteristics for Selected Massachusetts Communities***

Statewide data can mask variation among individual communities. Each year the 25 cities and towns with the greatest number of births to teen mothers ages 12-19 are ranked by birth rate. In 1997, 27 communities were selected due to ties in the number of births.

#### **Community Birth Rates<sup>4</sup>**

- ✓ *Due to a revised estimation of the population count for 1991-1995, the teen birth rates for these years have been re-calculated. Therefore, the 1991-1995 teen birth rates published in the 1996 and 1997 reports should not be compared to those found in previous reports.*
- ✓ The five Massachusetts communities with the highest teen birth rates in 1997 were Holyoke (94.9 births per 1,000 Holyoke women ages 15-19 years), Chelsea (93.9), Revere (93.2), Southbridge (91.7), and Springfield (82.3). Twenty-four out of the 27 communities with the greatest number of teen births in 1997 were also among the top 26 in 1996.
- ✓ For the first time since Massachusetts teen birth rates have been reported, all of the top ranked cities/towns with the highest number of teen births had a teen birth rate below 100.
- ✓ **Race/Hispanic Ethnicity Distribution of Births**
- ✓ In three of the five communities with the highest teen birth rates, the majority of 1997 teen births were to Hispanic mothers. The exceptions were Revere and Southbridge. The percentages of younger teen mothers (< 18 years) who were Hispanic were 90.3% in Holyoke, 67.7% in Chelsea, 72.7% in Southbridge, and 63.3% in Springfield. Statewide, the largest proportion of younger teen (< 18 years) births were to white non-Hispanic mothers (40.4%), followed by Hispanic (36.1%), black non-Hispanic (14.9%) and Asian (4.8%) mothers.

#### **Low Birthweight (LBW)**

- ✓ Among the 27 communities with the greatest number of 1997 teen births, the six communities with the highest percentages of LBW among teen births were Fitchburg (12.4%), Pittsfield (11.9%), Lowell (11.7%), Brockton (11.3%), Springfield (11.2%), and Boston (11.2%). These percentages are substantially higher than the state-wide percent LBW among teen births (9.5%) and among births to older women (6.8%).

#### **Adequacy of Prenatal Care**

- ✓ The five communities with the lowest percentages of adequate prenatal care for teen mothers were Methuen (40.4%), Leominster (44.4%), Westfield (47.5%), Barnstable (50.0%), and Lowell (50.7%). Overall, the state-wide percent of teen mothers receiving adequate prenatal care was 59.2%.

#### **Previous Live Births (Parity)**

- ✓ The statewide percentage of births to teen mothers who had at least one previous live birth was 18.0%. Among the 27 communities with the greatest number of teen births, the percentages of births among teens who had at

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least one previous live birth were highest in Leominster (37.8%) Southbridge (31.3%), Holyoke (31.0%), Lowell (28.5%), and Fitchburg (28.1%).

#### **Expected Educational Attainment**

- ✓ Among the 27 communities with the greatest number of teen births, the percentages of teen mothers who were one or more school grades behind were highest in Holyoke (40.8%), Southbridge (39.6%), Chelsea (38.0%), Fitchburg (37.1%), and Somerville (36.2%).

#### **In-Hospital Paternity Acknowledgment**

- ✓ In 1997, the state percentage of teen births for which paternity was acknowledged in-hospital was 66.0%, an increase from 1996 (62.8%). Boston had the lowest percentage (51.6%), as it did in 1996. However, this percentage represents an increase from 1996 (45.6%). Brockton (55.3%), Fitchburg (59.7%), Pittsfield (60.0%), and Cambridge (60.4%) also had relatively low percentages of in-hospital paternity acknowledgment among the 27 selected communities.

#### ***IV. Birth Characteristics for all 351 Communities and the 27 Community Health Network Areas (CHNA)***

In this section, the following statistics are presented for each of the 351 cities/towns in Massachusetts and for each of the 27 CHNAs: the number of all births, the number of teen births by mother's age (< 18 years and < 20 years), the number of births among teen mothers (< 20 years) who started prenatal care in the first trimester, and the number whose prenatal care was paid for with public funds. The Community Health Network Areas aggregate all Massachusetts cities and towns into 27 groups for the purpose of tracking health status and implementing health improvement efforts. The community groupings were modified in 1996 and the data here reflect the new groupings (see Appendix for most recent CHNA city/town groupings).

- ✓ In 1997, the Four (For) Communities Community Health Network area (Greater Holyoke) had the highest percentage of births that were to teens (15.2%, almost double the statewide percentage of 7.4%), followed by the Greater New Bedford (13.3%) and the Greater Lowell (13.1%) Community Health Network areas.
- ✓ In 1997, the lowest percentage of teen mothers receiving prenatal care starting in the first trimester (52.5%) was found in the North Shore Community Health Network area. The Greater Lowell Community Health Network area had the next lowest percentage (55.4%), followed by Partners for a Healthier Community (Greater Fall River area) (56.0%).